

Attorney Docket No. AFFY-003/26US



PATENT

JFW

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Stephen P.A. FODOR *et al.* Confirmation No.: 3654  
Serial No.: 10/694,541 Group Art Unit: 1634  
Filed: October 28, 2003 Examiner: Jeanine A. Goldberg  
For: **ARRAYS FOR DETECTING NUCLEIC ACIDS**

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U.S. Patent and Trademark Office  
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**Mail Stop Amendment**  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

### INFORMATION DISCLOSURE STATEMENT TRANSMITTAL

Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08 for the above-identified patent application.

- ☒ In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- ☐ In accordance with 37 C.F.R. §1.97(c), also enclosed is:
  - ☐ the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
  - ☐ a statement as specified in 37 C.F.R. §1.97(e).
- ☐ In accordance with 37 C.F.R. §1.97(d), a statement as specified in 37 C.F.R. § 1.97(e) and the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) are also enclosed.
- ☐ Check No. \_\_\_ in the amount of \$\_\_\_ for the total fee is attached.
- ☒ A return receipt postcard is also enclosed.
- ☐ Please charge \$\_\_\_\_\_ to Deposit Account No. 50-1283 for the total fee. This paper is being submitted in duplicate.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

Dated: June 20, 2007

**CUSTOMER NO. 33522**

COOLEY GODWARD KRONISH LLP  
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Respectfully submitted,

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PATENT



Attorney Docket No. AFFY-003/26US

Application No. 10/694,541

Page 1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Stephen P.A. FODOR *et al.* Confirmation No.: 3654

Application No.: 10/694,541

Group Art Unit: 1634

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Examiner: Jeanine A. Goldberg

For: Arrays for Detecting Nucleic Acids

Commissioner for Patents  
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**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56,  
Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97  
and 1.98.

- ☐ Pursuant to 37 C.F.R. §1.98, copies of documents 14-31 cited in the attached Form PTO-1449 are enclosed.
- ☐ Copies of the remaining publications listed on the attached Form PTO-1449 are not being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial Nos.:  
to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ Copies of documents that were not submitted in the above-mentioned related United States Patent Applications may be found in related United States Patent Application Nos.:  
**Should the Examiner be unable to locate a document, a copy will be provided upon request.**
- ☒ No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO-1449 are being provided in accordance with MPEP 609.04(a).

- ☐ Publication(s) \_\_\_ listed on the attached Form PTO-1449 were cited in a foreign search or examination report corresponding to \_\_\_ application serial no. \_\_\_ and mailed on \_\_\_.
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_. English language publication \_\_\_ (copy enclosed) claims priority from this non-English publication.
- ☒ Applicants bring the following additional information to the Examiner's attention: a request for *ex parte* reexamination filed by a third party against United States Patent Number 5,445,934 assigned to Affymetrix. The independent claims of the '934 patent have been previously provided as Appendix B to the IDS filed in the instant application on May 4, 2007. The claims are generally directed to a substrate or array comprising  $10^3$  or more groups of oligonucleotides attached thereto. The following references have been cited in the request for reexamination as relevant to the patentability of various claims under 35 U.S.C. § 103.

**Claims 1-10 of US 5,445,934 are alleged to be invalid under 35 U.S.C. § 103 based on:**

- EP 0 063 810 in view of Palmer, Charged Particle Accelerator Grating, U.S. Statutory Invention Registration H116; US 6,054,270; Behlke and Devor, "Chemical Synthesis of Oligonucleotides," [http://www.idtdna.com/support/technical/TechnicalBulletinPDF/Chemical\\_Synthesis\\_of\\_Oligonucleotides.pdf](http://www.idtdna.com/support/technical/TechnicalBulletinPDF/Chemical_Synthesis_of_Oligonucleotides.pdf), last visited May 29, 2007; and/or WO 91/07087

**Claims 1 and 7 of US 5,445,934 are alleged to be invalid under 35 U.S.C. § 103 based on:**

- PCT/GB89/00460 (WO 89/10977) in view of US 4,728,591; Ghosh, Nucl. Acids Res. 15:5353 (1987); Palmer, Charged Particle Accelerator Grating, U.S. Statutory Invention Registration H116; and/or US 4,994,373

**Claims 1-5, 7, 8 and 10 of US 5,445,934 are alleged to be invalid under 35 U.S.C. § 103 based on:**

- 4,562,157, in view of Sacra Blue Online, <http://www.sacpcug.org/archives/20year/timeline-a.html>, last visited May 29, 2007; Olympus Microscopy Resource Center, <http://www.olympusmicro.com/micd/galleries/chips.intel486dxa.html>, last

visited May 29, 2007; Miller, J.P., "Intel Introduces Powerful 80486 Chip, But High Price May Limit Initial Sales" The Wall Street Journal Online, Apr. 11, 1989; Gelsinger et al., "Microprocessors Circa 2000", IEEE Spectrum, October 1989, 43; US 5,348,855; Khrapko et al., FEBS Lett. 256:118 (1989); and/or Innis et al., "DNA Sequencing with *Thermus aquaticus* DNA Polymerase and Direct Sequencing of Polymerase Chain Reaction-Amplified DNA," Proc. Natl. Acad. Sci. USA, (1988) 85:9436

**Should the Examiner wish to review any documents in Applicants' possession related to this action, the Examiner is invited to contact the undersigned and any documents requested will be forwarded.**

- [x] Applicants again bring to the Examiner's attention pending Civil Action No. 04-901-JJF in the U.S. District Court for the District of Delaware. Applicants note that this civil action involves multiple patents, including U.S. Patent Nos. 6,355,432 and 6,646,243, owned by the assignee of this application, and the action is stylized as *Affymetrix v. Illumina*. The claims of the '432 patent and some of the claims of the '243 patent are generally directed to collections of encoded beads which have binding polymers of different target specific sequence attached thereto or to substrates comprising beads, spheres or particles comprising nucleic acids attached thereto.

Documents 1-8 and 14-23 were cited during the above mentioned civil actions.

**Should the Examiner wish to review any documents in applicants possession related to this action, the Examiner is invited to contact the undersigned and any documents requested will be forwarded.**

- [x] Applicants would like to clarify that some of the documents filed with the Information Disclosure Statement of May 4, 2007 were incorrectly scanned and entered into the Image File Wrapper system of the United States Patent and Trademark Office as "Certified Copy of Foreign Priority Application." The table below is provided to the Examiner to detail the correct description of the mislabeled documents. Applicants would like to also point out that there may be additional errors in the Image File wrapper due to the scanning at the USPTO. Applicants will provide extra copies of any reference cited in the May 4, 2007 IDS as submitted should the Examiner require one because of these errors.

| <u>Mail Room Date</u> | <u>Document Description</u>                    | <u>Document Category</u> | <u>Page Count</u> | <u>IDS citation</u>      |
|-----------------------|--|--------------------------|-------------------|--------------------------|
| 05-04-2007            | Certified Copy of Foreign Priority Application | PROSECUTION              | 50                | Document 1: "07/362,901" |

| <u>Mail Room<br/>Date</u> | <u>Document<br/>Description</u>                | <u>Document<br/>Category</u> | <u>Page<br/>Count</u> | <u>IDS citation</u>      |
|---------------------------|--|------------------------------|-----------------------|--------------------------|
| 05-04-2007                | Certified Copy of Foreign Priority Application | PROSECUTION                  | 103                   | Document 2: "07/492,462" |
| 05-04-2007                | Certified Copy of Foreign Priority Application | PROSECUTION                  | 39                    | Document 5: "07/874,849" |

This Information Disclosure Statement is filed within any one of the following time periods:

- ☐ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- ☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in this international application;
- ☐ before the mailing date of a first office action on the merits; or
- ☒ before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.

It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO-1449s to the undersigned. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 50-1283.

Dated: 6-20-2007

**USPTO Customer No. 000033522**

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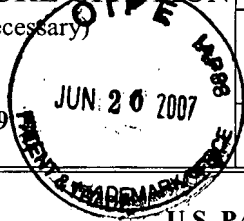
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By:

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|   |   |                                      |
|---|---|--------------------------------------|
| <b>INFORMATION DISCLOSURE CITATION</b><br>(Use several sheets if necessary) | <b>Attorney Docket No.</b><br>AFFY-003/26US         | <b>Application No.</b><br>10/694,541 |
|   | <b>Applicants:</b> Stephen P.A. FODOR <i>et al.</i> |                                      |
|   | <b>PAGE 1 of 2</b>                                  |                                      |
| <b>PTO Form 1449</b>  | <b>Filing Date:</b> October 28, 2003                | <b>Group Art Unit:</b> 1634          |



### U.S. PATENT DOCUMENTS

| Initial | Document No. | Date       | Name       | Class            | Sub-Class | Filing Date      |
|---------|--------------|------------|------------|------------------|-----------|------------------|
|         | 1.           | 4867733    | 06/06/1989 | Shiraishi et al. |           |                  |
|         | 2.           | 6210894    | 04/03/2001 | Brennan          |           |                  |
|         | 3.           | 6221653    | 04/24/2001 | Caren et al.     |           |                  |
|         | 4.           | 6235483    | 05/22/2001 | Wolber et al.    |           |                  |
|         | 5.           | 6255053    | 07/03/2001 | Lichtenwalter    |           |                  |
|         | 6.           | 6346423    | 02/12/2002 | Schembri         |           |                  |
|         | 7.           | 6458583    | 10/01/2002 | Bruhn et al.     |           |                  |
|         | 8.           | 07/435,316 |            | Barrett et al.   |           | Filed 11/13/1989 |
|         | 9.           | 6852490    | 02/08/2005 | Gentalen et al.  |           |                  |
|         | 10.          | 6582908    | 06/24/2003 | Fodor et al.     |           |                  |
|         | 11.          | 6284460    | 09/04/2001 | Fodor et al.     |           |                  |
|         | 12.          | 6054270    | 04/25/2000 | Southern         |           |                  |
|         | 13.          | H116       | 09/02/1986 | Palmer           |           |                  |

### FOREIGN PATENT DOCUMENTS

| Document No. | Date           | Country    | Class | Sub-Class | Translation |
|--------------|----------------|------------|-------|-----------|-------------|
| 14.          | WO 84/01031 A1 | 03/15/1984 | WIPO  |           |             |

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

| Initial | Document No.  |
|---------|---|
|         | 15. Aller R, Elevitch F. Symposium on Computers in the Clinical Laboratory. Clinics in Laboratory Medicine 1983;3:1-254   |
|         | 16. Ekins R, Chu F. Microarrays: their origins and applications. Tibtech 1999; 17:217-218   |
|         | 17. Gesteland R. Notes on Russia (DOE 6-12)   |
|         | 18. Hopes this issue jams every computer in the country. MAD Magazine April, 1978   |
|         | 19. Human Genome III: The International Conference on the status and future of research on the Human Genome, Official Program and Abstracts, Oct. 21-23, 1991 (AVI_131963-132005) |
|         | 20. Khrapko et al. Improved Chips for Sequencing by Hybridization. 1991 (DOE 24-35)   |
|         | 21. Report on Foreign Travel of Richard A. Sachleben, 1991 (DOE 16-23)  |
|         | 22. Khorlin, et al., "An oligonucleotide matrix hybridization approach to DNA sequencing," Nucl. Acid Res. Symp. Ser. 24:191 (1991)   |

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| <b>Examiner</b><br><br>51021 v1/DC | <b>Date Considered</b><br><br> |
|------------------------------------|--------------------------------|

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

|   |   |                                      |
|---|---|--------------------------------------|
| <b>INFORMATION DISCLOSURE CITATION</b><br>(Use several sheets if necessary)<br><br><b>PTO Form 1449</b> | <b>Attorney Docket No.</b><br>AFFY-003/26US         | <b>Application No.</b><br>10/694,541 |
|   | <b>Applicants:</b> Stephen P.A. FODOR <i>et al.</i> |                                      |
|   | <b>Page 2 of 2</b>                                  |                                      |
|   | <b>Filing Date:</b> October 28, 2003                | <b>Group Art Unit:</b> 1634          |

| Initial |     | OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)   |
|---------|-----|--|
|         | 23. | Lab Notebook pages 98-106 from Kay Lichtenwalter's lab notebook no. 1416. (From interference 105,089, but not in the pdf provided)   |
|         | 24. | "Inkjet printer", <a href="http://en.wikipedia.org/wiki/Inkjet_printer">http://en.wikipedia.org/wiki/Inkjet_printer</a> , last visited May 29, 2007 (Wikipedia).   |
|         | 25. | Bohlen et al., "Electron-Beam Proximity Printing-A New High Speed Lithography Method for Submicron Structures," IBM J. Res. Develop. (1982) 26:568   |
|         | 26. | Sacra Blue Online, <a href="http://www.sacpcug.org/archives/20year/timeline-a.html">http://www.sacpcug.org/archives/20year/timeline-a.html</a> , last visited May 29, 2007.  |
|         | 27. | Olympus Microscopy Resource Center, <a href="http://www.olympusmicro.com/micd/galleries/chips.intel486dxa.html">http://www.olympusmicro.com/micd/galleries/chips.intel486dxa.html</a> , last visited May 29, 2007.   |
|         | 28. | Innis et al., "DNA Sequencing with Thermus aquaticus DNA Polymerase and Direct Sequencing of Polymerase Chain Reaction-Amplified DNA," Proc. Natl. Acad. Sci. USA, (1988) 85:9436.   |
|         | 29. | Miller, J.P., "Intel Introduces Powerful 80486 Chip, But High Price May Limit Initial Sales", The Wall Street Journal Online, Apr. 11, 1989.   |
|         | 30. | Gelsinger et al., "Microprocessors Circa 2000", IEEE Spectrum, October 1989, 43.   |
|         | 31. | Behlke and Devor, "Chemical Synthesis of Oligonucleotides," <a href="http://www.idtdna.com/support/technical/TechnicalBulletinPDF/Chemical_Synthesis_of_Oligonucleotides.pdf">http://www.idtdna.com/support/technical/TechnicalBulletinPDF/Chemical_Synthesis_of_Oligonucleotides.pdf</a> , last visited May 29, 2007. |
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|---|-----------------|
| Examiner<br><br>51021 v1/DC   | Date Considered |
| <b>Examiner:</b> Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                 |



- [x] Documents 6-7, 12-13, 16-19, 21, 23-30, 32-38, 40-46, 48-63, 66-68, 70-82, 84-86, 89-91, 93, 95-103, 105, 107-108, 111, 113-119, 121-128, 130-132, 135, 137, 139-142, 147-159, 163, 169, 184-216, 220-235, 239, 243, 245-251, 253-268, 270, 272, 274-297, 299-301, 303-307, 309, 312-323, 325-328, 332, 334-335, 337-340, 343-346, 349-350, 354-363, 366-370, 371-373, 375-388, 390-413, 415-418, 420-422, 424-431, 433-439, 441-455, 458-459, 464-469, 471, 475-477, 479-480, 482, 484-488 and 490-497 were cited in Civil Action Nos.C 98-03192 FMS, C98-4508 FMS (MEJ), C98-4507 FMS (MEJ) and C 00-3210 MJJ in the U.S. District Court for the Northern District of California San Francisco Division.
- [x] Documents 170-173 and 175 were cited by the Examiner in an Office Action mailed June 27, 2006, in Applicants' related U.S. Application no. 10/694,536.
- [x] Document 302 was cited by the Examiner in an Office Action mailed January 10, 2006, in Applicants' related U.S. Application no. 10/102,915.
- [x] Documents 1-5, 8-11, 14-15, 20, 22, 31, 39, 47, 64-65, 69, 83, 87-88, 92, 94, 104, 106, 109-110, 112, 120, 129, 133-134, 136, 138, 143-146, 160-162, 164-168, 170-179, 217-219, 236-238, 240-242, 244, 252, 269, 271, 273, 298, 302, 308, 310-311, 324, 329-331, 333, 336, 341-342, 347-348, 351-353, 364-365, 369-370, 374, 389, 414, 419, 423, 432, 440, 456-457, 460-463, 470, 472-474, 478, 481, 483 and 489 were cited in an IDS and submitted to the Office in several of Applicants' pending related U.S. Applications.
- [x] Documents 181-183 were cited by the Examiner in an Office Action mailed February 15, 2007, in Applicants' related U.S. Application nos. 10/992,782 and 10/992,772, and February 16, 2007 in Applicants' related U.S. Application no. 10/993,432.
- [ ] Publication(s) \_\_\_ listed on the attached Form PTO-1449 were cited in a foreign search or examination report corresponding to \_\_\_ application serial no. \_\_\_ and mailed on \_\_\_.
- [ ] Enclosed is a copy of a non-English publication(s) \_\_\_. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- [ ] Enclosed is a copy of a non-English publication(s) \_\_\_. English language publication \_\_\_ (copy enclosed) claims priority from this non-English publication.

- [x] Enclosed are abstracts of non-English publications, DE 3506703, DE 4011991, EP 0 197 266, JP 59-024244, JP 62-254034, JP 63-136002, JP 63-238166 and WO 90/10746 cited herein as documents 184, 185, 190, 191, 204-227 and 240 respectively. English abstracts are attached to documents 184, 185, and 204-227. The English abstract for DE 3506703 and EP 0 197 266 A2 and B1 is attached to DE 3506703. An English abstract of non-English publication WO 90/10746 A1, document 240, may be found on the cover page of the publication. No English abstract is readily available for document 363, Kimizuka and Kato, "DNA chip technologies and their applications: towards functional genomics," *Tanpakushitsu Kakusan Koso* **43(13)**:2004-2011 (1998). Applicants believe that this document is a review article of DNA chip technologies and their applications.

This Information Disclosure Statement is filed within any one of the following time periods:

- [ ] within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- [ ] within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;
- [ ] before the mailing date of a first office action on the merits; or
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It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO-1449s to the undersigned. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 50-1283.

Dated: 6-20-2007

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| <b>INFORMATION DISCLOSURE CITATION</b><br>(Use several sheets if necessary)   |              |              |                            | <b>Attorney Docket No.</b><br>AFFY-003/26US         |           | <b>Application No.</b><br>10/694,541 |  |
|---|--------------|--------------|----------------------------|---|-----------|--------------------------------------|--|
| <b>PTO Form 1449</b>  |              |              |                            | <b>Applicants:</b> Stephen P.A. FODOR <i>et al.</i> |           | <b>PAGE 1 of 26</b>                  |  |
| <b>Filing Date:</b> October 28, 2003  |              |              |                            | <b>Group Art Unit:</b> 1634                         |           |                                      |  |
| <b>U.S. PATENT DOCUMENTS</b>  |              |              |                            |   |           |                                      |  |
| Initial   | Document No. | Date         | Name                       | Class   | Sub-Class | Filing Date                          |  |
|   | 1.           | 2004/0092032 | Winkler <i>et al.</i>      |   |           |                                      |  |
|   | 2.           | 2004/0248147 | Fodor <i>et al.</i>        |   |           |                                      |  |
|   | 3.           | 2005/0124000 | Winkler <i>et al.</i>      |   |           |                                      |  |
|   | 4.           | 2005/0186592 | Winkler <i>et al.</i>      |   |           |                                      |  |
|   | 5.           | 2005/0186683 | Winkler <i>et al.</i>      |   |           |                                      |  |
|   | 6.           | 3077780      | Takatsy                    |   |           |                                      |  |
|   | 7.           | 3615240      | Sanz                       |   |           |                                      |  |
|   | 8.           | 3848998      | Yonekura <i>et al.</i>     |   |           |                                      |  |
|   | 9.           | 3915704      | Limburg <i>et al.</i>      |   |           |                                      |  |
|   | 10.          | 4016855      | Mimata                     |   |           |                                      |  |
|   | 11.          | 4031197      | Marinkovich                |   |           |                                      |  |
|   | 12.          | 4046513      | Johnson                    |   |           |                                      |  |
|   | 13.          | 4162896      | Hosli                      |   |           |                                      |  |
|   | 14.          | 4166457      | Jacobsen <i>et al.</i>     |   |           |                                      |  |
|   | 15.          | 4282287      | Giese                      |   |           |                                      |  |
|   | 16.          | 4302204      | Wahl <i>et al.</i>         |   |           |                                      |  |
|   | 17.          | 4325913      | Wardlaw                    |   |           |                                      |  |
|   | 18.          | 4340390      | Collins <i>et al.</i>      |   |           |                                      |  |
|   | 19.          | 4378333      | Laipply                    |   |           |                                      |  |
|   | 20.          | 4392362      | Little                     |   |           |                                      |  |
|   | 21.          | 4455089      | Yeung <i>et al.</i>        |   |           |                                      |  |
|   | 22.          | 4478094      | Salomaa <i>et al.</i>      |   |           |                                      |  |
|   | 23.          | 4486539      | Ranki <i>et al.</i>        |   |           |                                      |  |
|   | 24.          | 4498774      | Yeung <i>et al.</i>        |   |           |                                      |  |
|   | 25.          | 4505783      | Mase <i>et al.</i>         |   |           |                                      |  |
|   | 26.          | 4555491      | Spurlin <i>et al.</i>      |   |           |                                      |  |
|   | 27.          | 4562159      | Shafritz                   |   |           |                                      |  |
|   | 28.          | 4575433      | Spurlin <i>et al.</i>      |   |           |                                      |  |
|   | 29.          | 4586546      | Mezei <i>et al.</i>        |   |           |                                      |  |
|   | 30.          | 4591567      | Britten <i>et al.</i>      |   |           |                                      |  |
|   | 31.          | 4607526      | Bachenheimer <i>et al.</i> |   |           |                                      |  |
|   | 32.          | 4634574      | Spurlin <i>et al.</i>      |   |           |                                      |  |
|   | 33.          | 4656007      | Douchy <i>et al.</i>       |   |           |                                      |  |
|   | 34.          | 4667025      | Miyoshi <i>et al.</i>      |   |           |                                      |  |
| <b>Examiner</b>   |              |              | <b>Date Considered</b>     |   |           |                                      |  |
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|   |     |              |            | <b>Applicants:</b> Stephen P.A. FODOR <i>et al.</i> |       |                                      |             | <b>PAGE 2 of 26</b> |  |
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|   | 76.          | 4883750 | 11/28/1989      | Whiteley <i>et al.</i>                              |           |                                      |  |                     |  |
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|   | 83.          | 4906439 | 03/06/1990      | Grenner   |           |                                      |  |                     |  |
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|   | 91.          | 4942124 | 07/17/1990      | Church  |           |                                      |  |                     |  |
|   | 92.          | 4943032 | 07/24/1990      | Zdeblick  |           |                                      |  |                     |  |
|   | 93.          | 4944922 | 07/31/1990      | Hayashi   |           |                                      |  |                     |  |
|   | 94.          | 4948565 | 08/14/1990      | Bemis <i>et al.</i>                                 |           |                                      |  |                     |  |
|   | 95.          | 4950744 | 08/21/1990      | Dattagupta <i>et al.</i>                            |           |                                      |  |                     |  |
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|   | 97.          | 4952707 | 08/28/1990      | Edwards <i>et al.</i>                               |           |                                      |  |                     |  |
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|   | 104.         | 4966646 | 10/30/1990      | Zdeblick  |           |                                      |  |                     |  |
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|   | 107.         | 4982326 | 01/01/1991      | Kaneko  |           |                                      |  |                     |  |
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|   | 113.         | 5059398 | 10/22/1991      | Kenney  |           |                                      |  |                     |  |
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|   | 127.         | 5204268 | 04/20/1993      | Matsumoto   |           |                                      |  |                     |  |
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|   | 131.         | 5270162 | 12/14/1993      | Shiraishi <i>et al.</i>                             |           |                                      |  |                     |  |
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|   | 134.         | 5288514 | 02/22/1994      | Ellman  |           |                                      |  |                     |  |
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